

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,307	08/04/2003	Wim Tjibbe Tel	081468-0304886	3422
909	7590	07/22/2004	EXAMINER	
PILLSBURY WINTHROP, LLP P.O. BOX 10500 MCLEAN, VA 22102			JARRETT, RYAN A	
		ART UNIT	PAPER NUMBER	
		2125		

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/633,307	TEL ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Ryan A. Jarrett	2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 04 August 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 21-24 is/are allowed.
- 6) Claim(s) 1-5,7-13,15-20 and 25 is/are rejected.
- 7) Claim(s) 6 and 14 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 04 August 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested:

Method, computer program product, and apparatus for determining gap in flow of substrates and scheduling maintenance actions during time period associated with gap.

2. The disclosure is objected to because of the following informalities:

In paragraph [0046] line 9, “2 and 3” should be changed to “3 and 4”.

In paragraph [0056] line 7, “coaters” should be replaced with “coaters.”.

### ***Claim Objections***

3. Claims 1 and 25 are objected to because of the following informalities:  
  
In claims 1 and 25, the limitation “method” should be changed to “computer-implemented method”. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 5 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

In the present instance, claim 5, which depends directly from claim 1, recites the broad limitation, "said scheduling comprises scheduling one or more maintenance actions to be performed **in at least a part** of the substrate processing system". However, claim 1 specifically recites, "scheduling one or more maintenance actions to be performed **in another part** of the substrate processing system", which is the narrow limitation.

Thus, claim 1 narrowly recites that the scheduling is to be performed in "another part" of the system, whereas claim 5 broadly recites that the scheduling can be performed in "any part" of the system. Clarification is required.

Claim 9 contains the same deficiency.

#### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-5, 7-13, 15-20, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Takano US 2003/0013213.

Regarding claims 1-5, 7-13, 15, 16, and 25, Takano discloses a computer-implemented method and computer program product for scheduling one or more maintenance actions in at least a part of a substrate processing system, comprising: determining a gap in the flow of substrates in a part of the substrate processing system; and scheduling one or more maintenance actions to be performed in another part of the substrate processing system during a period associated with the gap; wherein determining a gap comprises monitoring for a gap in the flow of substrates through the substrate processing system; wherein the gap is determined using information about the performance of at least one of a maintenance action and another activity provided by one or more parts of the substrate processing system; wherein the gap is determined using a scheduler and the method further comprises controlling the performance of the one or more maintenance actions in the another part of the substrate processing system using the scheduler (e.g., [0025], [0050]-[0065]);

wherein the flow of substrates in all or part of the substrate processing system is stopped upon the occurrence of the gap and said scheduling comprises scheduling one or more maintenance actions to be performed in at

least a part of the substrate processing system such that the one or more maintenance actions occur at least partly in parallel with the gap (e.g., [0025], [0050]-[0065]);

wherein the substrate processing system comprises a lithographic apparatus and a track (e.g., [0040]); wherein said scheduling is performed externally from the lithographic apparatus and the track (e.g., [0011]).

8. Regarding claims 17-20, Takano anticipates a lithographic apparatus comprising: an illumination system for providing a projection beam of radiation; a support structure for supporting a patterning device, the patterning device serving to pattern the projection beam according the a desired pattern; a substrate table for holding a substrate; a projection system for projecting the patterned beam onto a target portion of the substrate (e.g., [0040], and inherent to an exposure apparatus);

and a processing unit configured to determine a gap in the flow of substrates in a part of a substrate processing system and to schedule one or more maintenance action to be performed in the lithographic apparatus during a period associated with the gap (e.g., [0017], [0025], [0050]-[0065]);

wherein the processing unit is configured to monitor for a gap in the flow of substrates through the substrate processing system; wherein the processing unit is configured to determine the gap using information about the performance of at least one of a maintenance action and another activity provided by one or more parts of the substrate processing system; wherein the processing unit comprises

a scheduler, the scheduler being configured to determine the gap and control the performance of the one or more maintenance actions in the lithographic apparatus (e.g., [0025], [0050]-[0065]).

Regarding claim 25, Takano anticipates a method for initiating execution of maintenance actions in a track and a lithographic apparatus, comprising: determining a gap in the flow of substrates in a part of one of the track and lithographic apparatus; and scheduling one or more maintenance actions to be performed in another part of the track and the lithographic apparatus during a period associated with the gap (e.g., [0025], [0050]-[0065]).

### ***Allowable Subject Matter***

9. Claims 6 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

The prior art obtained by the Examiner fails to teach or fairly suggest that, upon the occurrence of a gap in the flow of substrates in a part of a substrate processing system, the flow of substrates continues in another part of a substrate processing system, and scheduling one or more maintenance actions to be performed in another part of the substrate processing system when at least a part of the gap is at a part of the substrate processing system where the

scheduled one or more maintenance actions are to be performed, in combination with the remaining features and elements of the claimed invention.

11. Claims 21-24 are allowed.

12. The following is an examiner's statement of reasons for allowance:

Although the prior art (Takano) teaches the methodology of claim 21 as applied to an exposure device, the prior art obtained by the Examiner does not teach the method being applied specifically to a track comprising a coater and a developer, and it is not considered obvious in view of the prior art (Takano) to use such a methodology in a track device.

The methodology of Takano is centered on the fact that the coating process takes longer than the exposure process, thus generating considerable idle time for the exposure apparatus. In view of this teaching, it would not be obvious to carry out the methodology of Takano in a track, as per claim 21 of the present application.

13. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (703) 308-4739. The examiner can normally be reached on 10:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan A. Jarrett  
Examiner  
Art Unit 2125

7/14/04

*Albert W. Paladini 7-20-04*  
ALBERT W. PALADINI  
PRIMARY EXAMINER